- Low Frequencies
- RoHS Compliant (Note 7 Exemption)
- Extended temperature range.

ZTB/ZTBF SERIES
CERAMIC RESONATOR

The ZTB Series ceramic resonator offers low frequency and extended temperature range capabilities. The ZTBF option is a formed lead version for SMD applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PART NUMBER *	FREQUENCY RANGE (KHz)	FREQUENCY ACCURACY @ 25°C (%)	FREQUENCY STABILITY -20 ~ +80°C (%)	AGING FOR TEN YEARS (%)	ESR (Ω) MAX.	C1 (pF)	C2 (pF)
ZTB□□□D	190 ~ 249	± 1.0 KHz	± 0.3	± 0.5	20	330	470
ZTB□□□D	250 ~ 374	± 1.0 KHz	± 0.3	± 0.5	20	220	470
ZTB□□□P	375 ~ 429	± 2.0 KHz	± 0.3	± 0.5	20	120	470
ZTB□□□E	430 ~ 449	± 2.0 KHz	± 0.3	± 0.5	20	100	100
ZTB□□□E	450 ~ 509	± 2.0 KHz	± 0.3	± 0.5	20	100	100
ZTB□□□P	510 ~ 699	± 2.0 KHz	± 0.3	± 0.5	35	100	100
ZTB□□□J	700 ~ 999	± 0.5%	± 0.3	± 0.5	70	100	100
ZTB□□□MJ	1000 ~ 1230	± 0.5%	± 0.3	± 0.5	100	100	100

Complete part number to include frequency i.e. ZTB500E (500=500 KHz)

PACKAGE DIMENSIONS (mm)

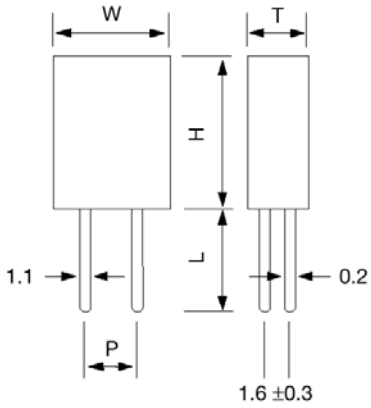

Figure 1) 190 ~ 249 KHz Front and Side Views

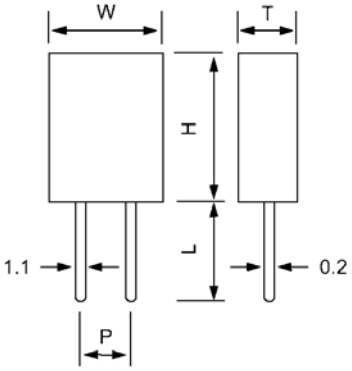

Figure 2) 250 ~ 1230 KHz, Front and Side Views

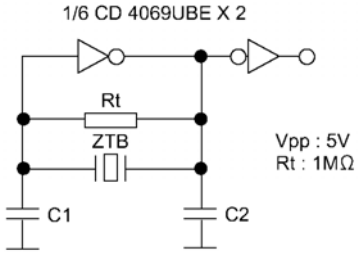

Figure 3) Test Circuit

FREQUENCY RANGE (KHz)	DIMENSIONS (mm)				
	W	T	H	P	L
190-249	13.5	3.8	14.7	10.0	8.0

FREQUENCY RANGE (KHz)	DIMENSIONS (mm)				
	W	T	H	P	L
250-374	11.0	3.8	12.2	7.7	7.0
375-449	7.9	3.6	9.3	5.0	5.0
450-699	7.0	3.5	9.0	5.0	5.0
700-1230	5.0	2.2	6.0	2.5	3.5

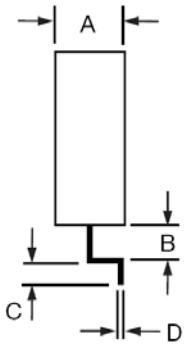

Figure 4) ZTBF (formed lead optionLand Pattern

PART NUMBER	FREQ. RANGE	A	B	C	D
ZTBF□□□P	400-429	3.6±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□E	430-509	3.5±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□P	510-699	3.5±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□J	700-999	2.2±0.5	0.6±0.3	1.0±0.3	0.12±0.05
ZTBF□□□MJ	1000	2.2±0.5	0.6±0.3	1.0±0.3	0.12±0.05

PART NUMBERING GUIDE: "Example" ZTB500E

Series	Frequency	Suffix
ZTB	500 = 500 KHz	E = 450 ~ 509 KHz

Rev. 5/11